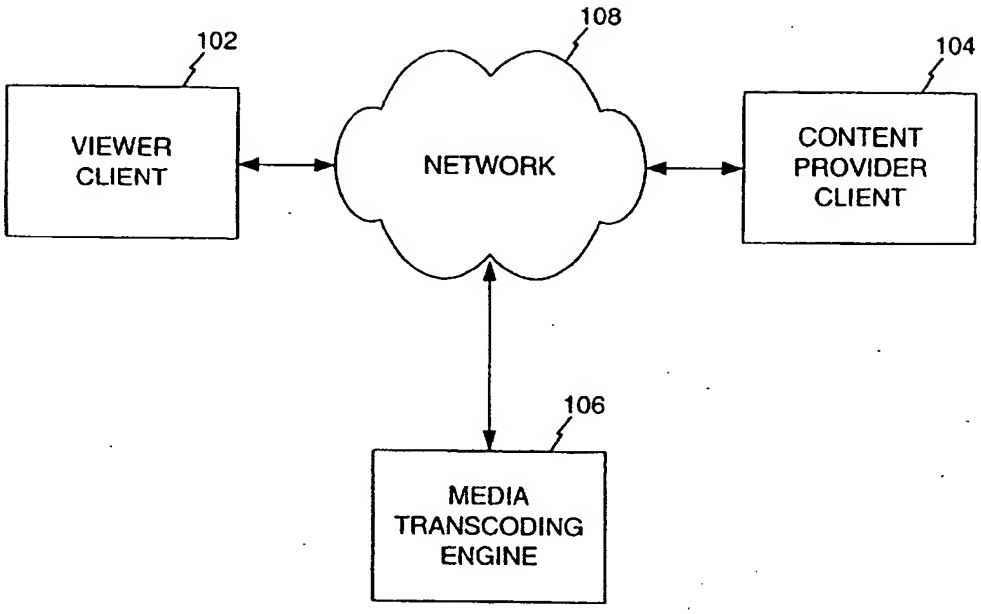
102
108
104
VIEWER CLIENT
NETWORK
CONTENT PROVIDER CLIENT
106
MEDIA TRANSCODING ENGINE

FIG. 1

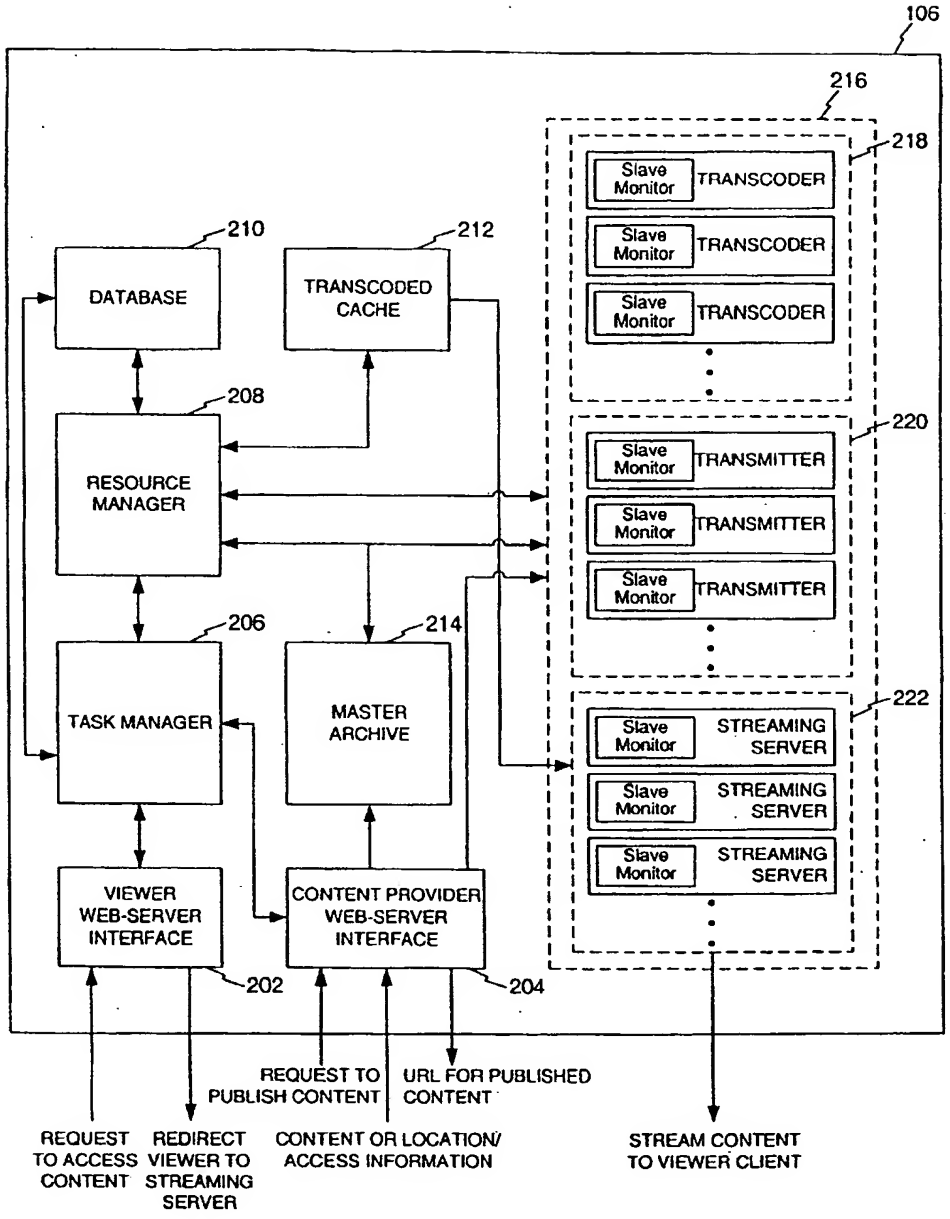
106
216
218
Slave Monitor
TRANSCODER
Slave Monitor
TRANSCODER
Slave Monitor
TRANSCODER
220
Slave Monitor
TRANSMITTER
Slave Monitor
TRANSMITTER
Slave Monitor
TRANSMITTER
222
Slave Monitor
STREAMING SERVER
Slave Monitor
STREAMING SERVER
Slave Monitor
STREAMING SERVER
210
DATABASE
212
TRANSCODED CACHE
208
RESOURCE MANAGER
206
TASK MANAGER
214
MASTER ARCHIVE
VIEWER WEB-SERVER INTERFACE
CONTENT PROVIDER WEB-SERVER INTERFACE
202
204
REQUEST TO PUBLISH CONTENT
URL FOR PUBLISHED CONTENT
REQUEST TO ACCESS CONTENT
REDIRECT VIEWER TO STREAMING SERVER
CONTENT OR LOCATION/ ACCESS INFORMATION
STREAM CONTENT TO VIEWER CLIENT

FIG. 2

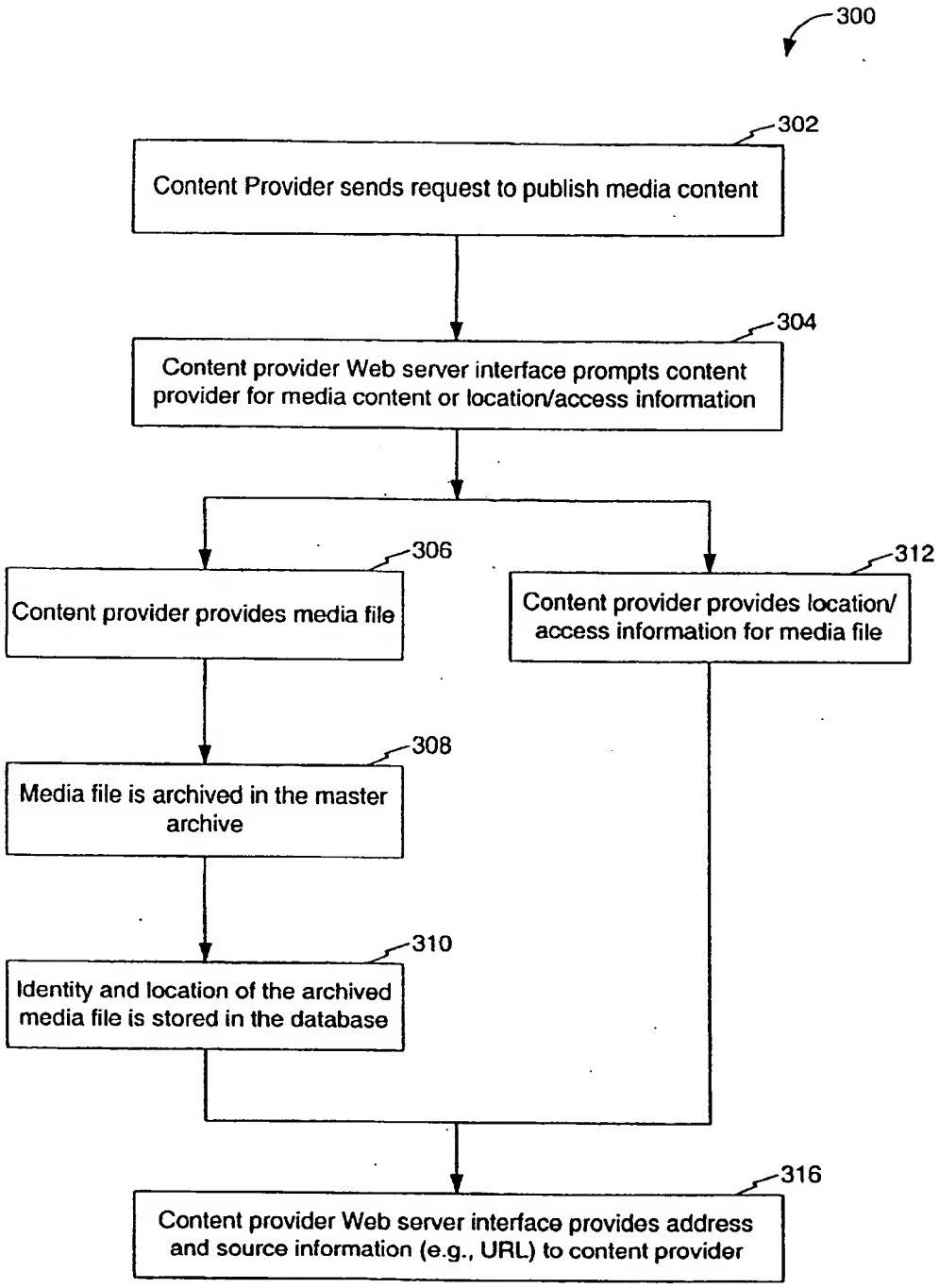
300
302
Content Provider sends request to publish media content
304
Content provider Web server interface prompts content provider for media content or location/access information
306
Content provider provides media file
312
Content provider provides location/ access information for media file
308
Media file is archived in the master archive
310
Identity and location of the archived media file is stored in the database
316
Content provider Web server interface provides address and source information (e.g., URL) to content provider

FIG. 3

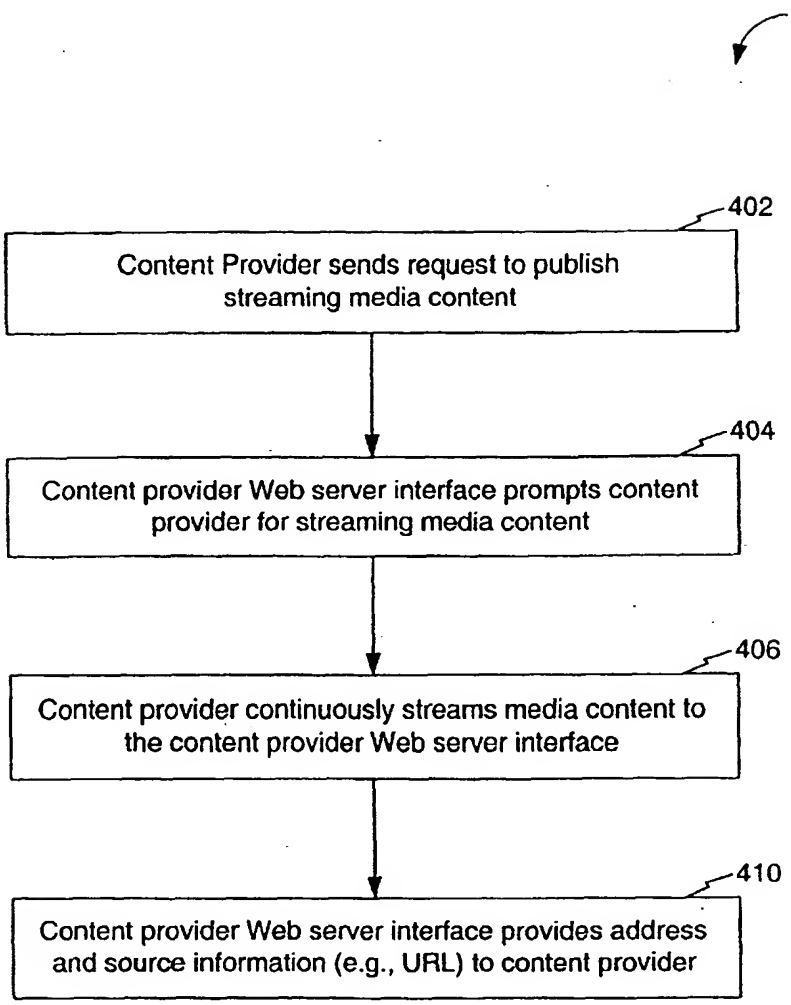
400
402
Content Provider sends request to publish streaming media content
404
Content provider Web server interface prompts content provider for streaming media content
406
Content provider continuously streams media content to the content provider Web server interface
410
Content provider Web server interface provides address and source information (e.g., URL) to content provider

FIG. 4

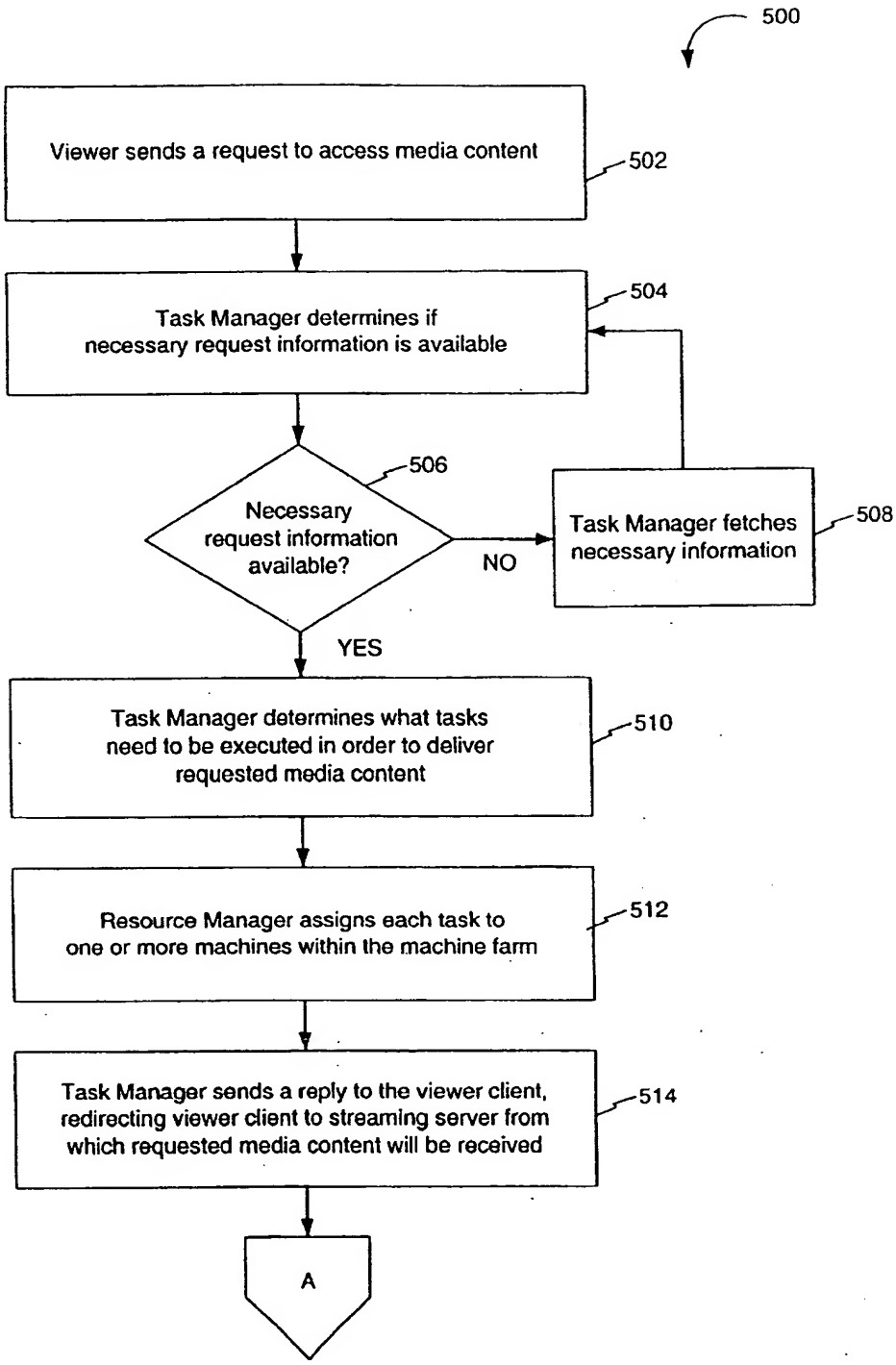
500
Viewer sends a request to access media content
502
Task Manager determines if necessary request information is available
504
Necessary request information available?
506
NO
Task Manager fetches necessary information
508
YES
Task Manager determines what tasks need to be executed in order to deliver requested media content
510
Resource Manager assigns each task to one or more machines within the machine farm
512
Task Manager sends a reply to the viewer client, redirecting viewer client to streaming server from which requested media content will be received
514
A

FIG. 5A

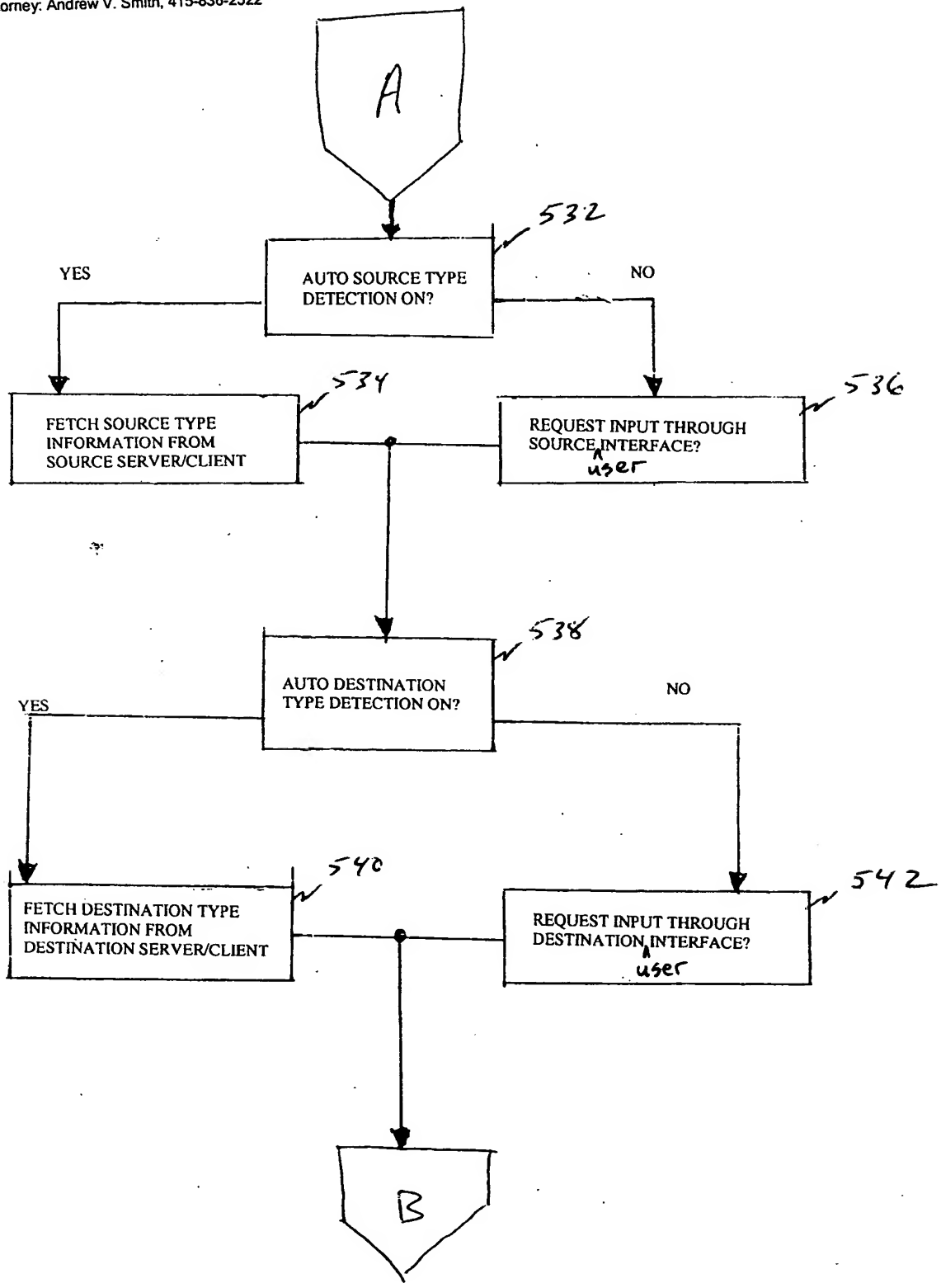
A
532
AUTO SOURCE TYPE DETECTION ON?
YES
NO
534
FETCH SOURCE TYPE INFORMATION FROM SOURCE SERVER/CLIENT
536
REQUEST INPUT THROUGH SOURCE INTERFACE?
user
538
AUTO DESTINATION TYPE DETECTION ON?
YES
NO
540
FETCH DESTINATION TYPE INFORMATION FROM DESTINATION SERVER/CLIENT
542
REQUEST INPUT THROUGH DESTINATION INTERFACE?
user
B

FIG. 5B

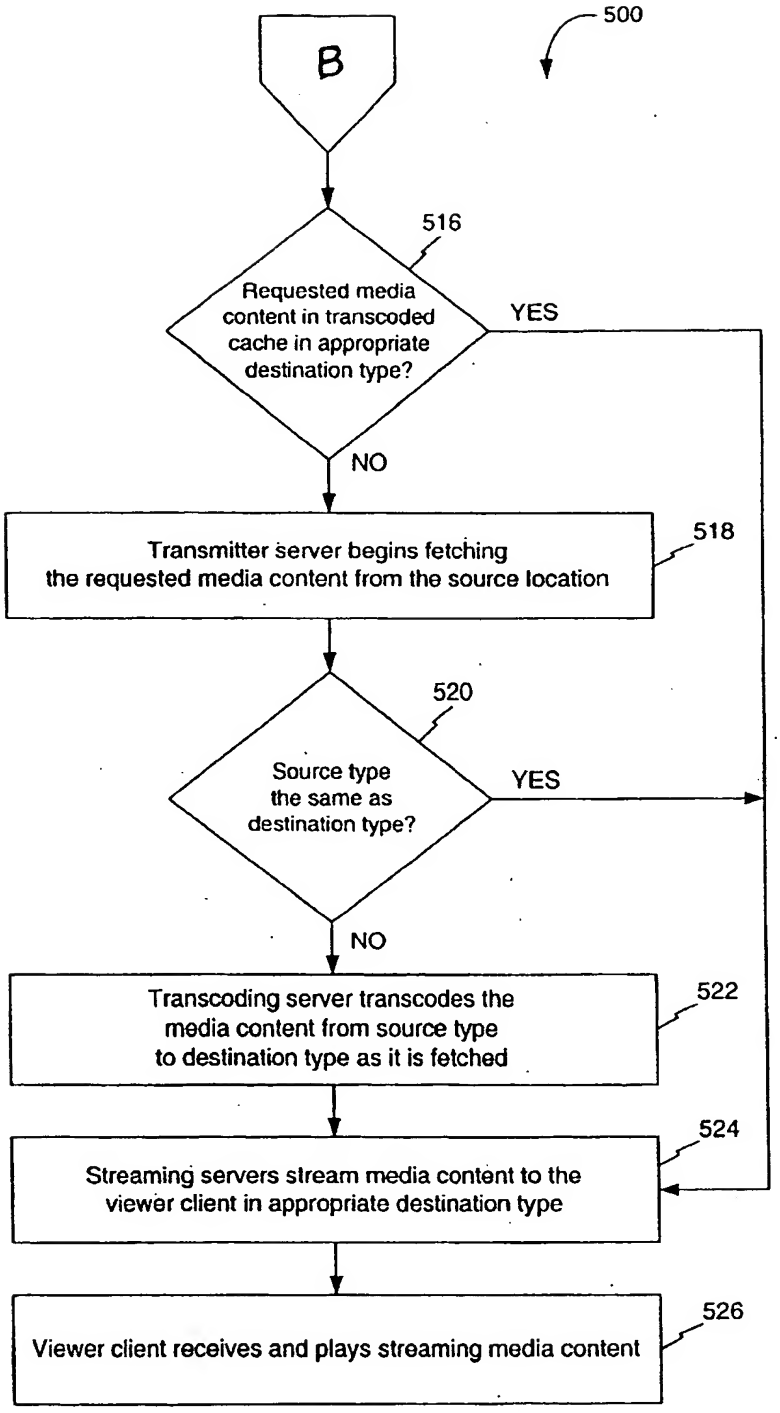
500
B
516
Requested media content in transcoded cache in appropriate destination type?
YES
NO
Transmitter server begins fetching the requested media content from the source location
518
520
Source type the same as destination type?
YES
NO
Transcoding server transcodes the media content from source type to destination type as it is fetched
522
Streaming servers stream media content to the viewer client in appropriate destination type
524
Viewer client receives and plays streaming media content
526

FIG. 5C

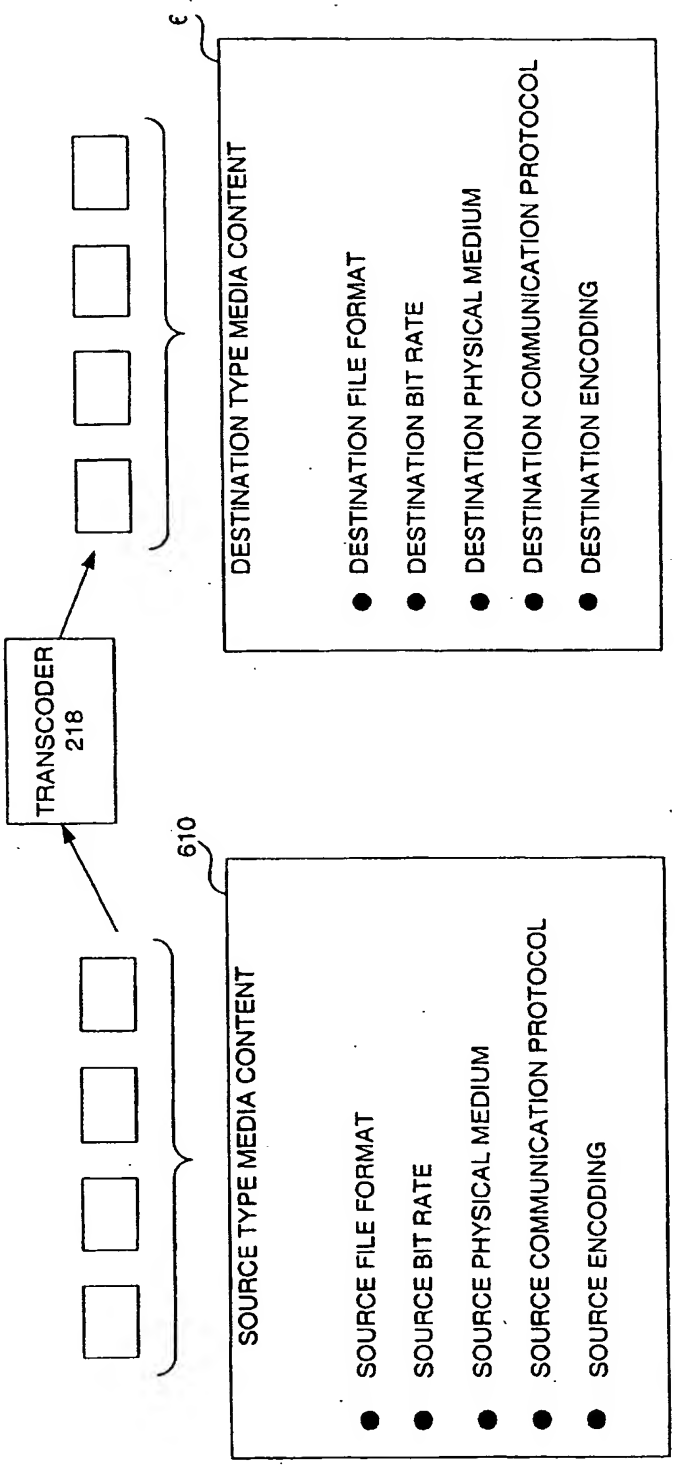
SOURCE TYPE MEDIA CONTENT
610
SOURCE FILE FORMAT
SOURCE BIT RATE
SOURCE PHYSICAL MEDIUM
SOURCE COMMUNICATION PROTOCOL
SOURCE ENCODING
TRANSCODER
218
DESTINATION TYPE MEDIA CONTENT
620
DESTINATION FILE FORMAT
DESTINATION BIT RATE
DESTINATION PHYSICAL MEDIUM
DESTINATION COMMUNICATION PROTOCOL
DESTINATION ENCODING

FIG. 6

PUBLISHING VARIABLES	SOURCE TYPE 710	DESTINATION TYPE 750	DESTINATION TYPE 760
PHYSICAL MEDIUM	LOCAL DISK	INTERNET	WIRELESS NETWORK
COMMUNICATION PROTOCOL	FILE I/O	WINDOWS MEDIA STREAMING MMS PROTOCOL	HTTP
CONTAINER FORMAT	MP3	WINDOWS MEDIA	MP3
ENCODING BIT RATE	128 kpbs	56 kbps	12 kbps

FIG. 7

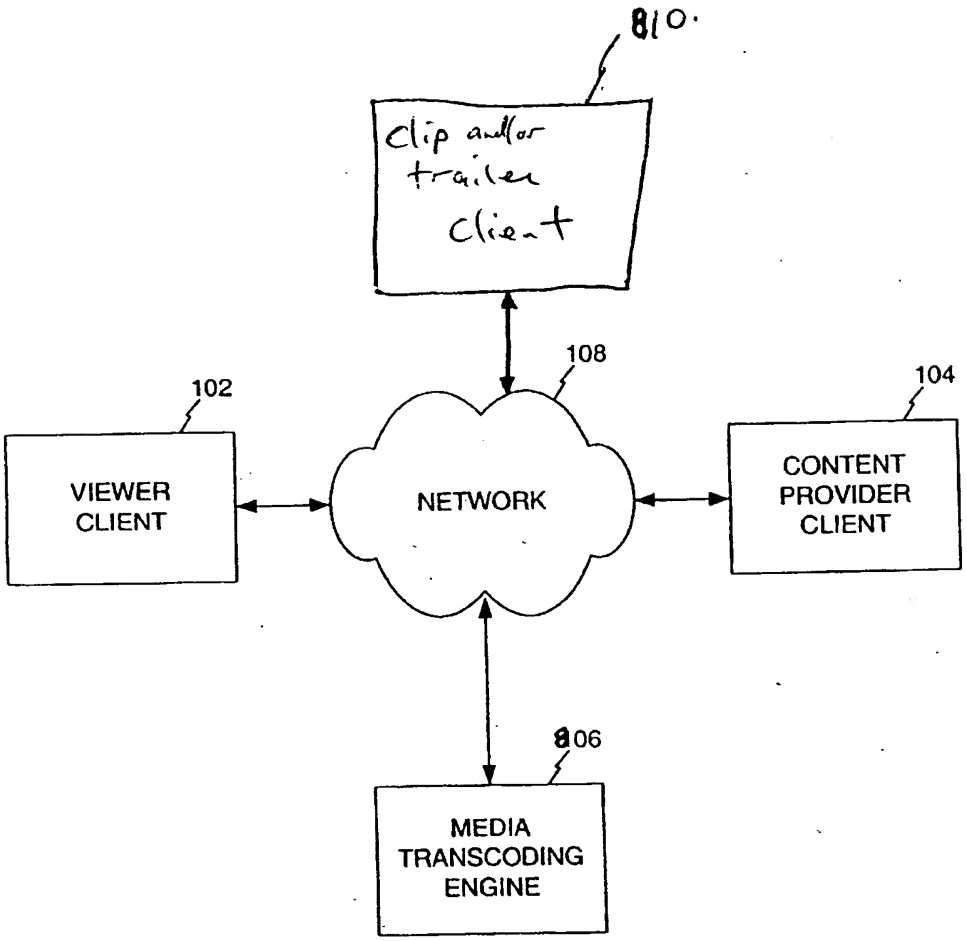
810
clip and/or trailer client
108
102
104
VIEWER CLIENT
NETWORK
CONTENT PROVIDER CLIENT
106
MEDIA TRANSCODING ENGINE

FIG. 8A

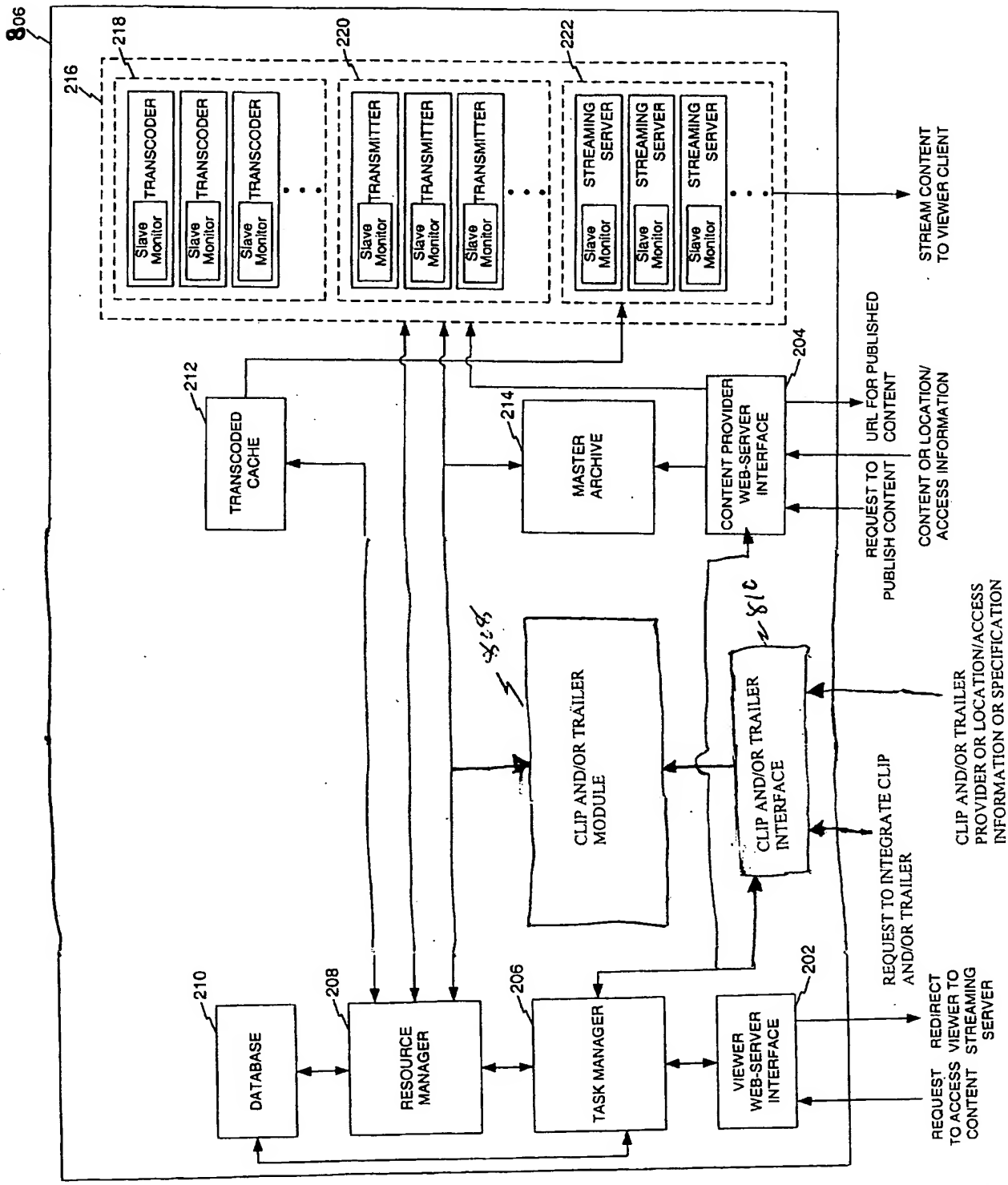
806
216
218
220
222
TRANSCODER
TRANSMITTER
STREAMING SERVER
Slave Monitor
STREAM CONTENT TO VIEWER CLIENT
212
TRANSCODED CACHE
214
MASTER ARCHIVE
204
CONTENT PROVIDER WEB-SERVER INTERFACE
URL FOR PUBLISHED CONTENT
CONTENT OR LOCATION/ ACCESS INFORMATION
REQUEST TO PUBLISH CONTENT
CLIP AND/OR TRAILER MODULE
CLIP AND/OR TRAILER INTERFACE
CLIP AND/OR TRAILER PROVIDER OR LOCATION/ACCESS INFORMATION OR SPECIFICATION
REQUEST TO INTEGRATE CLIP AND/OR TRAILER
210
DATABASE
208
RESOURCE MANAGER
206
TASK MANAGER
202
VIEWER WEB-SERVER INTERFACE
REDIRECT VIEWER TO STREAMING SERVER
REQUEST TO ACCESS CONTENT

FIG. 8B

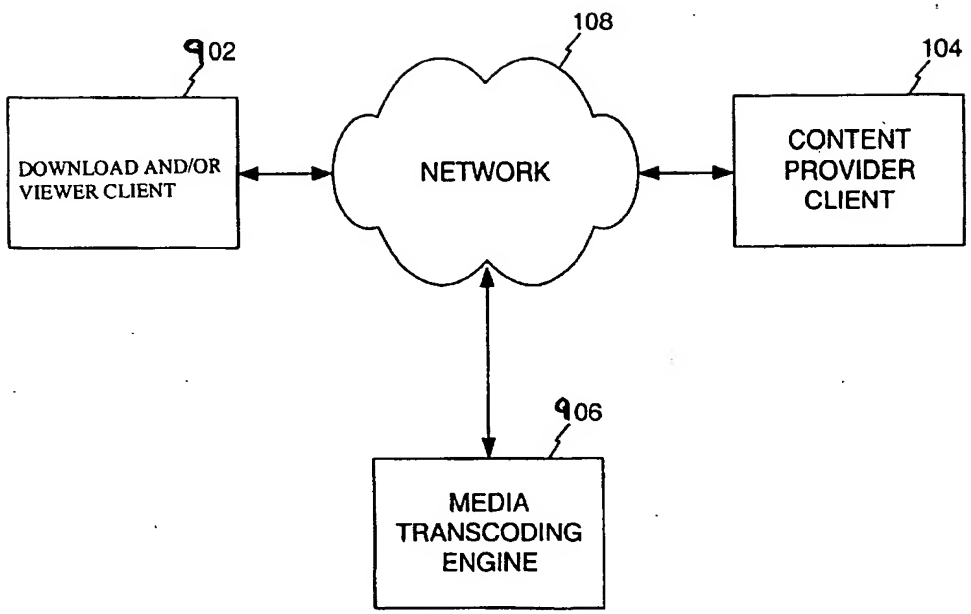
902
108
104
DOWNLOAD AND/OR VIEWER CLIENT
NETWORK
CONTENT PROVIDER CLIENT
906
MEDIA TRANSCODING ENGINE

FIG. 9A

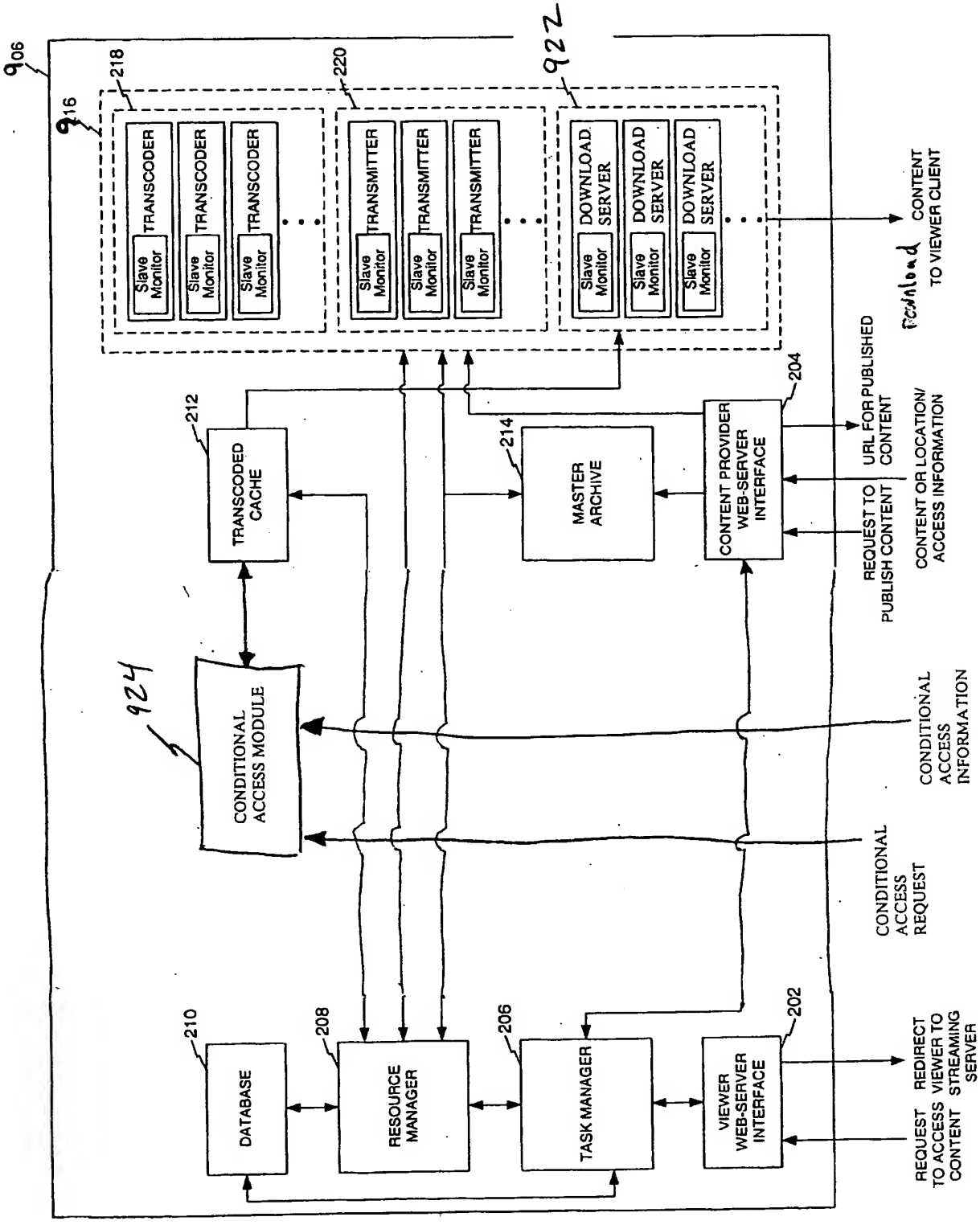
906
916
218
220
922
TRANSCODER
TRANSMITTER
DOWNLOAD SERVER
Slave Monitor
212
TRANSCODED CACHE
214
MASTER ARCHIVE
204
CONTENT PROVIDER WEB-SERVER INTERFACE
924
CONDITIONAL ACCESS MODULE
210
DATABASE
208
RESOURCE MANAGER
206
TASK MANAGER
202
VIEWER WEB-SERVER INTERFACE
URL FOR PUBLISHED CONTENT
REQUEST TO PUBLISH CONTENT
CONTENT OR LOCATION/ ACCESS INFORMATION
CONTENT TO VIEWER CLIENT
CONDITIONAL ACCESS INFORMATION
CONDITIONAL ACCESS REQUEST
REDIRECT VIEWER TO STREAMING SERVER
REQUEST TO ACCESS CONTENT

FIG. 9B

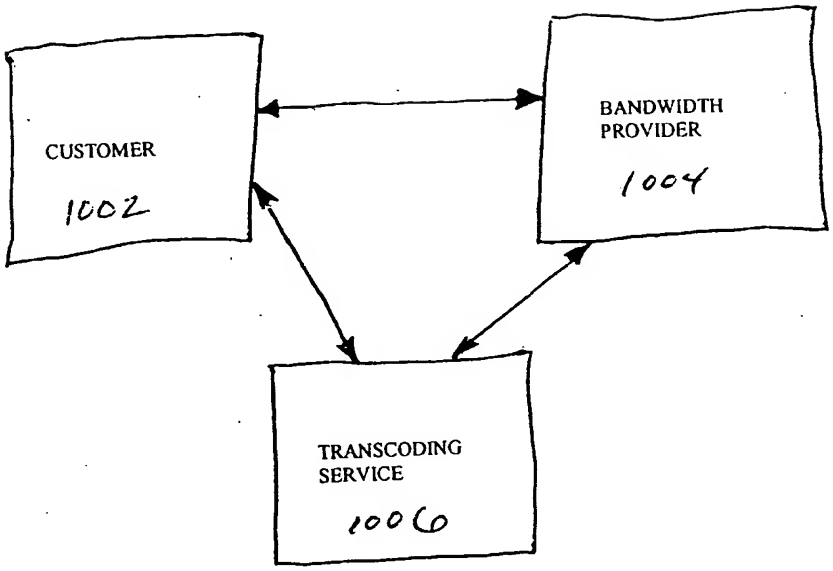

FIG. 10

STEADY CACHE TRANSFER BALANCING

ON-PEAK CACHING OPERATION	OFF-PEAK CACHING OPERATIONS
•CACHE AND STREAM REQUESTED CONTENT •PULL RECORDS FROM PRE-CACHE ARCHIVE •STREAM PRE-CACHE RECORDS	•CACHE AND STREAM REQUESTED CONTENT •PRE-CACHE ANTICIPATED AND/OR PRE-ORDER CONTENT •STORE PRE-CACHE RECORDS INTO PRE-CACHE ARCHIVE

FIG. 11